

Application No. 10/693,569

Amendment dated 07/19/2008 responding to Office Action dated 11/29/2007

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CENTRAL FAX CENTER****JUL 21 2008****AMENDMENTS****In the Claims**

Please amend claims 1-4, 7,9-12, 15-19,21-28,30, as follows. The following listing of claims will replace all prior versions and listings of claims in the application.

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LISTING OF THE CLAIMS

1 **1.** (Currently Amended) A car audio amplifier system for use with a head unit of an  
2 automobile, wherein the head unit and the amplifier system comprise separate components, the  
3 amplifier system comprising:

4 (A) a an amplifier control unit couplable to the head unit and including,

5 (1) at least one input connector for receiving at least one respective channel of  
6 audio signal from the head unit,

7 (2) circuitry, coupled to receive the audio signal from the input connector, for  
8 modifying the received audio signal;

9 (3) at least one control for determining a characteristic of the modifying; and

10 (4) at least one output connector for outputting the modified audio signal; and

11 (B) an amplifier unit physically separate from, and coupled to, the amplifier control unit  
12 and including,

13 (1) an input connector for receiving the modified audio signal output from the  
14 amplifier control unit,

15 (2) amplification circuitry coupled to the input connector for amplifying the  
16 modified audio signal, and

17 (3) an output connector for outputting the amplified modified audio signal to a  
18 loudspeaker.

1 **2.** (Currently Amended) The car audio amplifier system of claim 1 wherein:  
2 the circuitry of the amplifier control unit includes a pre-amplifier.

1 **3.** (Currently Amended) The car audio amplifier system of claim 1 wherein:  
2 the input connector of the amplifier control unit is further for receiving at least two  
3 channels of audio signal from the head unit;  
4 the output connector of the amplifier control unit is further for outputting at least two  
5 channels of modified audio signal; and

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6 the circuitry of the amplifier control unit includes means for combining two channels of  
7 audio signal from the head unit and providing the combined signal to one channel at the output  
8 connector of the amplifier control unit.

1 4. (Currently Amended) The car audio amplifier system of claim 3 wherein:

2 the two channels of audio signal from the head unit include a Left channel and a Right  
3 channel; and

4 the circuitry of the amplifier control unit provides a modified Left channel signal to a  
5 Front Left channel and a Rear Left channel at the control unit's output connector, a modified  
6 Right channel signal to a Front Right channel and a Rear Right channel at the control unit's  
7 output connector, and a combination of the modified Left channel signal and the modified Right  
8 channel signal to one of a Center channel and a Subwoofer channel at the amplifier control unit's  
9 output connector.

1 5. (Original) The car audio amplifier system of claim 1 wherein:

2 the amplifier unit includes a plurality of input connectors; and

3 the amplifier circuitry amplifies audio signals provided at a selected one of the plurality  
4 of input connectors.

1 6. (Original) The car audio amplifier system of claim 5 wherein:

2 the amplifier unit includes a first input connector comprising a set of RCA jacks, and a  
3 second input connector comprising a DIN connector.

1 7. (Currently Amended) The car audio amplifier system of claim 1 wherein:

2 all of the controls of the audio amplifier system are located on the amplifier control unit.

1 8. (Original) The car audio amplifier system of claim 1 wherein the characteristic comprises  
2 gain.

1 9. (Currently Amended) The car audio amplifier system of claim 1 wherein:

2 the amplifier control unit comprises a plurality of controls each for determining a  
3 respective one of a plurality of characteristics; and

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the plurality of characteristics comprises gain and at least one of high pass filter, low pass filter, delay, phase, subsonic filter, subwoofer parametric frequency, and bass boost.

10. (Currently Amended) The car audio amplifier system of claim 1 wherein:  
the amplifier unit comprises a docking bay adapted for docking the amplifier control unit.

11. (Currently Amended) The car audio amplifier system of claim 10 wherein:  
the docking bay comprises an input connector adapted to mate with the output connector of the amplifier control unit when the amplifier control unit is docked.

**12.** (Currently Amended) An amplifier system for use in a vehicle which includes a passenger compartment having a head unit providing a plurality of audio channel signals, the amplifier system comprising:

(A) an amplifier control unit adapted to mount in the passenger compartment, and comprising,

a control unit input connector for receiving the plurality of audio channel signals from the head unit,

a plurality of amplifier controls including at least a gain control, circuitry, coupled to the control unit input connector, for modifying the plurality of audio signals in response to settings of the amplifier controls, and

a control unit output connector for outputting the plurality of modified audio signals; and

(B) an amplifier unit physically distinct from the amplifier control unit and comprising,

an amplifier input connector coupled to the control unit output connector to receive the modified audio signals,

amplifier circuitry coupled to the amplifier input connector for amplifying the modified audio signals; and

speaker terminals coupled to the amplifier circuitry for outputting the amplified modified audio signals.

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1 13. (Original) The amplifier system of claim 12 further comprising:

2 a cable coupling the amplifier input connector to the control unit output connector.

1 14. (Original) The amplifier system of claim 13 wherein:

2 the control unit output connector comprises a DIN connector, the amplifier input  
3 connector comprises a DIN connector, and the cable comprises a DIN umbilical cable.

1 15. (Currently Amended) The amplifier system of claim 12 wherein the plurality of amplifier  
2 controls comprises all of the amplifier system's gain controls.

1 16. (Currently Amended) The amplifier system of claim 12 wherein the plurality of amplifier  
2 controls further includes a filter control.

1 17. (Currently Amended) The amplifier system of claim 16 wherein the plurality of amplifier  
2 controls further includes a delay control.

1 18. (Currently Amended) The amplifier system of claim 17 wherein the plurality of amplifier  
2 controls further includes a phase control.

1 19. (Currently Amended) The amplifier system of claim 18 wherein the plurality of amplifier  
2 controls further includes a bass boost control.

1 20. (Cancelled)

1 21. (Currently Amended) The amplifier system of claim 12 wherein the plurality of amplifier  
2 controls further includes a multi-channel equalizer.

1 22. (Currently Amended) The amplifier system of claim 12 wherein the amplifier control  
2 unit further includes:

3 an auxiliary input connector for receiving audio channel signals from an auxiliary unit;

4 and

5 an input selector control for selecting whether the circuitry modifies the audio channel  
6 signals from the input connector or the audio channel signals from the auxiliary input connector.

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1 23. (Currently Amended) The amplifier system of claim 22 wherein the amplifier control  
2 unit further includes:

3 input volume means for compensating for signal level difference between audio channel  
4 signals from the input connector and audio channel signals from the auxiliary input connector,  
5 whereby when a user switches between the head unit and the auxiliary unit by operating the input  
6 selector control, a difference in audio volume from the loudspeakers is controlled.

1 24. (Currently Amended) The amplifier system of claim 12 wherein:

2 the amplifier unit includes a docking bay into which the amplifier control unit can be  
3 docked; and

4 means for connecting the control unit output connector to the amplifier input connector.

1 25. (Currently Amended) The amplifier system of claim 12 wherein the plurality of audio  
2 channel signals provided by the head unit includes Front Left, Front Right, Center, Rear Left,  
3 Rear Right, and Subwoofer audio channel signals, and wherein the plurality of amplifier controls  
4 comprises:

5 Front gain,

6 Front high pass filter,

7 Center gain,

8 Center high pass filter,

9 Center delay,

10 Rear gain,

11 Rear high pass filter,

12 Rear delay,

13 Subwoofer gain,

14 Subwoofer low pass filter,

15 Subwoofer phase,

16 Subwoofer subsonic filter,

17 Subwoofer parametric frequency, and

18 Subwoofer bass boost.

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1 **26.** (Currently Amended) A method whereby a person adjusts audio characteristics of an  
2 audio system, the audio system having a head unit, ~~a~~ an amplifier control unit coupled to the  
3 head unit, an external amplifier coupled to the amplifier control unit, and loudspeakers coupled  
4 to the external amplifier, all channel gain controls for the amplifier being located on the amplifier  
5 control unit, wherein the head unit, the amplifier control unit, and the loudspeakers are located  
6 within a passenger compartment of a vehicle, and wherein the head unit, the amplifier control  
7 unit, and the external amplifier are distinct components, the method comprising:  
8 being positioned within the passenger compartment;  
9 operating the head unit to provide a plurality of audio channel signals to the control unit;  
10 while listening to sound produced by the loudspeakers which are driven by the external  
11 amplifier according to modified audio channel signals from the control unit,  
12 adjusting ~~a~~ an amplifier control on the amplifier control unit, to control a  
13 modification by the amplifier control unit of one of the audio channel signals provided by  
14 the head unit, until a desired acoustic result is obtained by such adjusting.

1 27. (Currently Amended) The method of claim 26 wherein:  
2 adjusting the amplifier control comprises adjusting a channel gain control.

1 28. (Currently Amended) The method of claim 27 wherein:  
2 adjusting the amplifier control further comprises adjusting a channel filter control.

1 29. (Original) The method of claim 28 further comprising:  
2 selecting back and forth between audio signals provided by the head unit and audio  
3 signals provided by an auxiliary unit; and  
4 adjusting an input level adjustment control on the control unit, to substantially equalize  
5 an audio volume produced in response to the audio signals provided by the head unit and an  
6 audio volume produced in response to the audio signals provided by the auxiliary unit.

1 30. (Currently Amended) The method of claim 26 further comprising:  
2 removing the amplifier control unit from the passenger compartment; and

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3                   docking the control unit into a docking bay on the external amplifier.